



TYPE CERTIFICATE DATA SHEET Nº EH-2014T03

Type Certificate Holder:

HARTZELL PROPELLER INC.

One Propeller Place
Piqua, Ohio - OH 45356-2634
USA

EH-2014T03

Sheet 01

HARTZELL

3A1

05 May 2014

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 2014T03, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

TYPE	Constant speed, hydraulic (See Notes 3 & 4)
ENGINE SHAFT	Special flange (See Note 1)
HUB MATERIAL	Aluminum alloy
BLADE MATERIAL	See below
NUMBER OF BLADES	Three

HUB ELIGIBLE 3A1-TP (See Notes 1 and 4)

Blade Eligible (See Note 2)	Max. Continuous Power hp (rpm)	Take off power hp (rpm)	Diameter Limits (See Note 2) m (in)	Approx. Max. Weight Compl. (See Notes 3 and 7) kg (lb)	Blade Construction (See Note 10)
<u>Non-Counterweighted Propellers 3A1-TP (375 through 724) (See Note 1)</u>					
75A01+2 To 75A01-8	155 (2309)	155 (2309)	1.98 to 1.73 +0,05 to -0,20 (78 to 68) (+2 to -8)	13.9 (30.7)	Composite

CERTIFICATION BASIS RBAC 35 (Brazilian Requirements for Aeronautical Certification), which endorses under RBAC 21.29 Amendment 1 effective on 01 December 2011, 14 CFR Part 35 Amendments -1 through -9, effective on 19 March 2013 originally. (Models 3A1-TP).

TYPE CERTIFICATION

<u>Model</u> 3A1-TP	<u>Application</u> 27 March 2014	<u>Issued TC</u> 05 May 2014
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PRODUCTION BASIS Not Applicable.

IMPORT REQUIREMENTS Each propeller imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, issued by FAA, attesting that the particular propeller and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved type design.

NOTES

NOTE 1 Hub model Designation - $\frac{3}{[1]}$ $\frac{A}{[2]}$ $\frac{1}{[3]}$ $\frac{-TP}{[4]}$ $\frac{724}{[5]}$ $\frac{A1}{[6]}$, where:

- [1] 3 Number of Blades
- [2] A Basic hub series
- [3] 1 Pitch Control System (see Notes 3 and 4)
1: Oil to increase pitch, non-counterweighted blades
- [4]-TP Mounting flange bolt pattern for engine compatibility (T)
Second character when used indicates flange index with respect to blade centerline (P)
- [5]724 Distance in inches from mounting flange to blade centerline (implied decimal after first digit)
- [6]A1 Two character alphanumeric hub descriptor (first character must be alpha)
L – when used indicates left hand rotation
Any other alpha character indicates a minor change not affecting eligibility
Numeric character indicates a minor configuration change not affecting eligibility

NOTE 6

Interchangeability:

- (a) Propellers
Not applicable
- (b) Governors
Hartzell governors with a "Z" suffix in their model designation may be used interchangeably with corresponding governors without the "Z". For example, the F-6-24Z is a replacement for the F-6-24 and the F-6-24 is a replacement for the F-6-24Z.
- (c) Blades
Not applicable
- (d) Ice Protection Systems
Refer to Hartzell Service Letter HC-SL-30-260 for ice protection system component interchangeability.

NOTE 7

Accessories: (See Note 10)

- (a) Propeller ice protection system (weight of ice protection equipment extra)
 - (1) Propeller models listed in this data sheet are approved for use with propeller ice protection equipment listed in Hartzell Manual 159() or in other Hartzell type design data.
 - (2) All propeller ice protection equipment must be approved as part of the aircraft installation regardless of manufacturer (See Note 10)
- (b) Propeller spinner (weight of spinner extra)
 - (1) Approved with Hartzell and other manufacturers' spinners when listed on Hartzell type design data.
 - (2) All propeller spinners must be approved as part of the aircraft installation regardless of manufacturer. (See Note 10)

NOTE 8

Shank Fairings: Not applicable.

NOTE 9

Special Limits:

Table of Propeller – Engine Combinations

Approved Vibrationwise for Use on Normal Category Single Engine Tractor Aircraft

The maximum and minimum propeller diameters that can be used from a vibration standpoint are shown below. No reduction below the minimum diameter listed is permissible, since this figure includes the diameter reduction allowable for repair purposes.

The engine models listed below are the configurations on the engine type certificate unless specifically stated otherwise. Modifications to the engine or airframe that alter the power of engine listed below during any phase of operation have the potential to increase propeller stresses and are not approved by this list. Such modifications include, but are not limited to, the addition of a turbocharger or turbnormalizer, increased boost pressure, increased compression ratio, increased RPM, altered ignition timing, electronic ignition, full authority digital engine controls (FADEC), or tuned induction or exhaust. Also, any change to the mass or stiffness of the crankshaft/counterweight assembly is not approved by this list.

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	Max. Dia m (in)	Min. Dia m (in)	<u>Placards</u>
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Not applicable.

NOTE 10 Propeller installation must be approved as part of the aircraft Type Certificate and demonstrate compliance with the applicable aircraft airworthiness requirements. Propellers model listed herein consist of basic hub and blade models. Most propeller models include additional characters do denote minor changes and specific features as explained in Notes 1 and 2. Refer to the aircraft Type Certificate Data Sheet or "Especificação de Aeronave" (EA) for the specific propeller model applicable to the installation.

Propellers with composite blades must be evaluated for bird impact resistance prior to approval on any type aircraft. Hartzell propeller must perform test and/or analyses based on aircraft configuration and operating conditions to determine the potential hazard as a result of bird impact.

NOTE 11 Special Limits:

(a) Life Limits and Mandatory Inspections

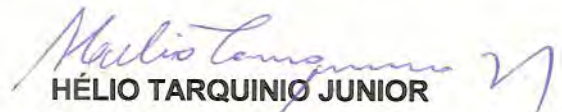
(1) Airworthiness limitations, if any, are specified in Hartzell Manuals 411.

The propeller CMACO must evaluate the propeller installation for each new aircraft installation to assess possible change in the airworthiness limitations.

NOTE 12 Special Notes:

(a) Refer to Hartzell Manual no. 202() for overspeed and overtorque limits.

(b) Refer to Hartzell Service Letter HC-SL-61-61() for overhaul periods.



HÉLIO TARQUINIO JUNIOR

Gerente Geral de Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification Branch)

